

# *The* AGRICULTURAL EDUCATION *Magazine*

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Picture legend, page 192

**Featuring—**

Improving Professional Status

# The Agricultural Education Magazine



A monthly magazine for teachers of agriculture. Managed by an editorial board chosen by the Agricultural Section of the American Vocational Association and published at cost by Interstate Printers and Publishers, Danville, Illinois.

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## Editorials

### Guest Editorial...

E. R. ALEXANDER, National Farm Life Insurance Company, formerly Head of the Department of Agricultural Education, Texas A. & M. College

Thirty-two years of work in Agricultural Education have led to some conclusions about professional improvement that should be of concern to the more than eleven thousand workers in the field in the United States.

In the summer of 1953 a young man asked this question: "What is your opinion of the chance for a job after I get my Doctor's degree?" He made it clear that he wanted a place as teacher trainer. This young man was sincerely worried. He wanted a frank answer and no one had the courage to give it to him face to face.

The answer now is that his chances are not good. He is one of twenty-eight former teachers of vocational agriculture who have a Master's degree and are in some advanced stage of a doctoral program in Agricultural Education in one institution. During the completion of his program he will have acquired much useful information and many valuable techniques. What department of Agricultural Education in teacher training will buy his services? Which one will have a position available? This young man would prefer going back to his home state. But he sees only two opportunities there and they are not likely to be available for five or six years. He would be willing to accept a place in any of several nearby states. But all of these states have one or more men enrolled at the same institution. They also face an extremely limited opportunity to find a position in their several states.

What is the general outlook for young men with a doctorate in Agricultural Education? According to the latest release from the United States Office of Education, there is a total of 463 positions in teacher training and supervision in the United States. This is roughly one "advanced" position for each twenty-three teachers of vocational agriculture. How many Ph.D.'s do we need?

It would be most helpful if some individual or official in Agricultural Education were to make a reliable survey of the age and health status of the 463 individuals holding positions as teacher trainers or supervisors. An analysis of the personnel records state by state would reveal any "turn over" pattern that may have developed among teacher trainers and supervisors. Such a study would provide some indication of the number of replacements to maintain staffs at the current level. How many replacements are in training? Too many or too few to satisfy the needs? My fear is that the number in training is much higher than the number of opportunities for placement and at the same time it is understood that a small surplus reservoir of well trained men for higher echelon positions is necessary for the program.

It is a carefully considered opinion that too many institutions are offering a doctoral program in Agricultural Education. The quality of these programs should be carefully examined. Too often they educate away from reality. They encourage narrow specialization. In some cases the young doctor feels that he has reached the pinnacle of professional preparation. In some cases the doctoral dissertation becomes his educational Bible.

It only aggravates the educational evil to say that this condition is prevalent also in many other doctoral categories. We are gradually slipping into the pattern of substituting form for substance.

Are constructive remedies available to check or counteract these undesirable outcomes? There are many remedies that need to be considered. Three are suggested here. One is to limit the number of approved institutions offering the doctoral program in Agricultural Education. Another is a suggestion for a continuous modification of doctoral programs. A third is that candidates for the doctor's degree be selected objectively and systematically.

Four institutions, one for each twelve-state region as now set up, would be adequate to provide the doctoral programs that must be available for a select group of replacements in teacher training and supervision. It would be necessary for the staff of each institution to include a minimum of so-called permanent members to provide continuity of programs and to maintain acceptable professional standards. The remaining members would be composed of representatives of staffs of the states of the region. These temporary staff members would serve one and not more than two years as members of the regional institutional graduate faculty. They would be selected by a regional committee of teacher trainers and supervisors. Their salaries would be paid by the regional institution.

Each region would select its candidates for admission to the doctoral programs. The number selected would be determined by the prospective need for replacements and expansion. It would be helpful if a four-region committee were provided to recommend standards for the guidance of regional committees in the selection of candidates for the advanced study program.

Doctoral programs must be continuously modified in the light of changing conditions—educational, social, political, economic, and agricultural. Intelligent awareness of changes in the above named areas can be derived only through systematic and periodic investigations. Careful evaluation of the findings of these investigations will serve as a basis for modification of doctoral programs. These findings will be equally valuable to teacher trainers and supervisors in the several states in the operation of their undergraduate and Master's programs.

Will you permit a bit of nostalgic braggadocio? Leaders during the founding years of vocational education in agriculture were not concerned with the fly speck aspects of education. They saw a farm boy of limited outlook and limited opportunity to develop those qualities which a farmer citizen must possess. He was more than Whittier's immortal "Blessings on thee, little man—with turned up pantaloons and merry whistled tunes—" He was, and is, the unknown in the equation of life. It soon was evident to the early leaders in Agricultural Education that an educational porridge of books and things was not enough to develop the whole

(Continued on Page 192)

# Can they and do they?

Factors associated with certain abilities possessed and jobs taught in selected livestock enterprises by teachers of vocational agriculture in Michigan\*

CONRAD WHITE, Head Department of Agriculture,  
Central Missouri State College



Conrad White

THOSE concerned with the education of public school teachers generally recognize the need for improving the preparation of these teachers. They are seeking reliable and valid information that will assist them in bringing about this improvement. The areas of

improvement other than general education include subject-matter preparation and professional education. This study involved the area of subject-matter preparation.

The purpose of this study was to determine whether specific factors are associated with (1) certain abilities possessed, and (2) jobs taught in selected livestock enterprises by teachers of vocational agriculture. These factors were: teaching experience, technical training and farming areas.

## Procedures

An analysis was made of abilities possessed and jobs taught in beef-cattle, sheep, and swine enterprises by 45 teachers of vocational agriculture in Michigan during 1949-50. These teachers had graduated from Michigan State College since receiving the Bachelor of Science degree.

A check-list of the more important manipulative and managerial jobs in the three livestock enterprises was validated by a jury of ten members of the staff in agricultural education and animal husbandry at Michigan State College. If a teacher had indicated on the returned check list that he had performed and could demonstrate a manipulative job or he felt qualified to teach a managerial job, it was considered that the teacher possessed the ability to do that job. The teacher also indicated whether the jobs were taught to all-day classes and/or out-of-school classes.

## Abilities of Teachers

There was considerable range in ability of teachers in the livestock enterprises. Some could not do 25 per cent of the manipulative abilities; others could do more than 75 per cent. The same range in ability of teachers was found for managerial abilities in the same enterprises. The number of manipulative or managerial jobs taught varied greatly. It was assumed that the number of abilities possessed would likely be related to technical training and teaching experience, while the number of jobs taught would

be related to the type of farming practiced in the area where teachers were located.

## Technical Training

Teachers with 12 or more credits in animal husbandry were considered as animal husbandry majors. It was found that such teachers had significantly more manipulative abilities in beef-cattle and swine enterprises and more managerial abilities in the beef enterprise than did non-majors. There were no differences between the two groups of teachers in the percentage of either manipulative or managerial jobs taught.

## Teaching Experience

The teachers were divided into two groups based on the years of teaching experience. Those with nine or more years of experience were classified as more experienced and were compared with those of less experience. It was found that there was no significant difference between the groups either in abilities possessed or in jobs taught.

## Type of Farming Areas

Teachers in important livestock-producing counties did not possess significantly more manipulative and managerial abilities than did the teachers in less-important livestock-producing counties. Nor was there any significant difference between the groups in jobs taught.

## Relationship Between Manipulative and Managerial Abilities and Jobs

Teachers had acquired a greater percentage of the managerial abilities than manipulative abilities and they taught a significantly greater percentage of the managerial jobs than manipulative ones. The teachers with more manipulative abilities taught more of the manipulative jobs. This was not true for managerial abilities. There was no significant correlation between managerial abilities possessed and jobs taught in the swine enterprise to all-day students but there was between abilities and jobs taught to out-of-school members. In the beef enterprise a non-significant correlation was found between managerial abilities possessed and jobs taught to adult farmers.

## Abilities Possessed in Livestock Enterprises

Teachers were better qualified to teach manipulative jobs in swine production than in beef or sheep. As far as the managerial aspects of livestock production are concerned teachers had a significantly greater percentage of abilities in swine than in sheep but there was no significant difference in the percentage of managerial abilities possessed in the swine and beef enterprises.

## Implications

Based on the above findings are some implications which might aid in the selection of students as prospective teachers, both pre-service and in-service education, and finally the placement of teachers in vocational agriculture.

*Selection of students as prospective teachers.* Probably greater consideration should be given to selection of students who possess more abilities in the livestock enterprises prior to enrollment; or to students who give indications that they might acquire some of these essential abilities by securing additional farm experience prior to becoming employed teachers. This applies especially to the sheep and swine enterprises. To aid students in making a more efficient analysis of abilities possessed in these enterprises a partial revision of the section of the farm experience inventory used in Michigan dealing with the livestock enterprises is needed. This might be done partially on the basis of the more important abilities included in the check-list in the present study.

*Pre-service education of teachers.* Perhaps prospective teachers of vocational agriculture should be encouraged to acquire more manipulative abilities and managerial abilities in the beef-cattle enterprise and more manipulative abilities in the swine enterprise in order to be able to teach the recommended jobs in these enterprises.

Some consideration should be given to reorganizing the introductory courses in animal husbandry for students who find it impossible to take extra courses or who will not take extra courses in animal husbandry. These reorganized courses should be broad rather than specialized; they should cover beef-cattle, sheep, and swine enterprises with possibly a big increase in the amount of instruction in the beef-cattle enterprise. This might necessitate the offering of a special section in the required courses for majors in agricultural education.

In agricultural education courses still greater emphasis should be placed on the necessity of teachers using their manipulative abilities, and also the importance of teaching manipulative jobs to students of vocational agriculture. However, there is a possibility that more of these abilities may have been used and more of these jobs may have been taught in the individualized on-farm instruction in connection with the supervised farming programs of students, than were reported by the teachers included in the present study.

Consideration should be given to including instruction in animal breeding, meats, and marketing phases of livestock production in the pre-service education programs for prospective teachers of vocational agriculture. Teachers are fairly well qualified in the general management, animal nutrition, selection, fitting and showing phases of livestock production.

*In-service education of teachers.* In graduate courses in agricultural education, continued emphasis should be made of the value of employed teachers making

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\*Based on doctoral dissertation, Michigan State College, 1951.

# Evaluation of job activities in farm mechanics

Based upon opinions of farm operators

C. O. JACOBS, Department of Agricultural Engineering, Kansas State College



C. O. Jacobs

THE results of a study recently conducted by the Agricultural Engineering Department, Kansas State College, showed need for college course work in Farm Electrification and Farm Shop Work for students of Agriculture to present offerings.

Increased mechanization and application of Agricultural Engineering processes to modern farming operations as well as the reported need for doing certain job activities on the farm as shown by this study indicated a need for appraisal and evaluation of Agricultural Engineering courses now offered to agricultural students at Kansas State.

While the study was concerned with determining the farm mechanics needs of college students in Agriculture, the study was believed to have implications for evaluation and improvement of the present curricula in farm mechanics for the preparation of teachers of vocational agriculture, and course development and improvement in vocational agriculture for all-day students, young farmer, and adult groups.

## Source of Data

Information for the study was secured by means of a survey questionnaire sent to 412 selected graduates of the School of Agriculture from 1920-1950. The questionnaire was designed in accordance with six major areas of instruction in farm mechanics, namely, Farm Power and Machinery, Farm Carpentry, Soil and Water Management, Farm Electrifica-

tion, Water Supply and Sewage Disposal, and Farm Shop Work. Graduates were asked to evaluate selected job activities included within each of the areas of instruction. Evaluation was based upon their checking one of the following categories which most nearly described the situation regarding their need for the activity in question: (1) Perform this job when necessary, (2) If trained would do this job, (3) Prefer to hire this job done, and (4) Have no need to do this job.

A factor which may have influenced the way in which the job activities were evaluated was the large scale farming operations reported by the group. While the 1950 Census data showed 370 acres as the average size farm for Kansas, this study showed that graduates were farming an average of 900 acres.

Eighty-five per cent of the graduates indicated they had established home farm shops. Of those who did not have a shop, 82 per cent reported a desire to establish one within the next five years.

Based upon the total responses received from 306 usable questionnaires, it was shown that approximately three times more graduates reported having no need to do the job activities in the area of Soil and Water Management than in any other area of farm mechanics instruction. With the exception of Farm Shop Work, the area of Farm Electrification showed approximately two times more graduates desiring training in the activities listed than in any other area of farm mechanics.

## Variation According to Location

An analysis of selected factors relative to the study showed that the influence of geographic location of the farm within the State upon the total need for instruction in a particular area of farm mechanics showed significant difference in four

of six areas of farm mechanics, namely, (1) Farm Power and Machinery, (2) Farm Electrification, (3) Water Supply and Sewage Disposal, and (4) Farm Shop Work. The general tendency with regard to need was one in which interest diminished from the western to the eastern part of the State of Kansas.

The graduates who indicated having had college course work which included skills in farm mechanics, compared with those who did not, showed greater performance of job activities in four of six areas, namely, (1) Farm Shop Work, (2) Farm Power and Machinery, (3) Rural Electrification, and (4) Farm Carpentry. There was no significant difference between graduates who reported a farm shop and those who did not, as to whether they had farm mechanics course work in college.

## Influence of Home Shops

Graduates who reported home farm shops indicated having performed more job activities but did not necessarily indicate a desire for more training. Those not reporting a shop indicated less performance but a greater desire for training.

The analysis indicated that (1) mechanical activities performed on the farm may be increased if the farmer has established a farm shop and (2) increasing the experience of a student of Agriculture through an enriched program of instruction in farm mechanics might be a way of increasing performance of farm mechanics activities on the farm.

To attach educational significance to the replies of the graduates with respect to a particular job activity, it was arbitrarily decided that a certain percentage value representing the total number of checks in a particular category be equalled or exceeded. The following method to determine educational significance of an activity was used for the study:

1. If the percentage values of categories "perform this job when necessary" and "if trained would perform this job" totaled 70 per cent or more, a "total need" for either continued or increased emphasis on the particular job activity would be suggested.

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Prospective teachers of Vocational Agriculture service and repair a farm tractor as a phase of the teacher training program in farm mechanics instruction offered by the Agricultural Engineering Department, Kansas State College. Such activities are given a place of importance by experienced farm operators.



A prospective teacher of Vocational Agriculture making short work of sharpening a rolling coultter by using a portable grinder and a fast cutting abrasive wheel. Maintenance and repair operations on farm machines is stressed in the teacher training program of farm mechanics, Kansas State College.

Some evidence regarding the - -

# Interests and job satisfaction of midwestern teachers\*

KENNETH NELSON, Teacher Education, Michigan State College

IN THE SPRING of 1948, 302 experienced teachers of vocational agriculture from Iowa, Illinois and Minnesota completed a questionnaire regarding their vocational interests and job satisfaction. This is a brief summary of the areas which were found to be significant in the interests and job satisfaction of midwestern teachers in agriculture. When the vocational interests of these teachers of vocational agriculture were compared with successful professional men in a large number of other occupations it was found that in general they liked activities and work of an outdoor and agricultural nature. When specific items of the Strong Vocational Interest Blank were used to measure the vocational interests of these teachers, it was found that they indicated a liking for the following occupations and activities more frequently than professional men in general:

Carpenter	Agriculture
Farmer	Shop Work
Landscape	Raising Flowers and
Gardener	Vegetables
Rancher	Teaching Adults
School Teacher	

The following items are illustrative of those liked less frequently by these teachers than by other professional men:

English Composition	Living in the City
History	Pessimists
Literature	Spendthrifts
Art Galleries	A Few Intimate
Ancient Languages	Friends

From the summary of the more than 400 items in the Strong Vocational Interest Blank, it was found that teachers' interests are differentiated from those of professional men in general in terms of the subject they teach, mainly agriculture and activities relating to agriculture. The vocational interests of teachers from Iowa, Illinois and Minnesota were discovered to be similar with the possible exception that Iowa teachers have somewhat greater interests in activities of a mechanical or shop work nature than teachers from Illinois and Minnesota, although this difference was very slight.

## Satisfaction with Job

A large majority of these teachers were comparatively well satisfied with their job and their work and only a small percentage, between 10 and 20 per cent, were either dissatisfied or indifferent to their job and their work. However, it was found that a majority of teachers were not satisfied with certain specific job factors such as security, salary, social approval, heavy work load, and advancement

opportunities offered by the job. The specific job factors which gave the teachers greatest satisfaction were these:

- Working with young people
- Working with rural people
- Freedom and initiative possible in their work

A large number of workers in many occupations have been asked the *Fortune Magazine* poll question: "If you could go back to the age of 18 and start life over again would you choose a different career or occupation?" The percentage of people from different occupations who answered "yes" to this question range from 20% to 60% with an average of about 41% for over 5,000 individuals polled. Forty-six per cent of this sample of successful midwestern teachers answered this question "yes." It can be concluded from this study that although successful teachers of agriculture are satisfied with their jobs as a whole, there are a number of minor elements in their job which gave them considerable dissatisfaction to the extent that the "other side of the fence" appears to be greener than their own.

A comparison was made between the interests of teachers highly satisfied in their job and those not so well satisfied in their job. The main area of interests measured by the Strong Vocational Interest Blank which differentiated these two groups was found to be associated with leadership and initiative, with the following items illustrating those liked more frequently by more satisfied teachers:

- Playground director
- Organization of a play
- Opening conversation with strangers
- Meeting and directing people
- Winning confidence and loyalty
- People who assume leadership

The second area liked more frequently by more satisfied teachers was that of working with people and education, illustrated by items such as "teaching children," "author of text book," "worker in Y.M.C.A.," "adjusting the difficulties of others," "chairman of educational committee" and "playground director." As a result of the item comparison made between highly satisfied and less satisfied groups of teachers a sub-scale called the *Teaching Satisfaction Sub-Scale* was constructed. This scale predicts more specifically the job satisfaction of teachers in their work.

## Interpretations

The research data gathered from this study have resulted in the establishment of a teacher of vocational agriculture scale for the Strong Vocational Interest Blank which is presently included on the interest profile furnished by Testscor, a

test scoring service located at 100 Metropolitan Building, Minneapolis 1, Minnesota. The Teaching Satisfaction Sub-Scale can be furnished by the author to interested teacher training departments.

Several implications for recruitment and training of teachers are probably in order as a result of this research.

1. A Teacher of Vocational Agriculture Scale for the Strong Vocational Interest Blank is now available for use in the preliminary guidance of prospective teachers of vocational agriculture.
2. Although the above mentioned scale indicates the presence or absence of agricultural interests of a prospective teacher, further evidence would be necessary to determine the presence or absence of interests which more specifically predict job satisfaction. This can best be determined by trial experience in teaching or working with young people. A second possibility in the determination of these teaching interests is the use of a teaching satisfaction sub-scale developed in the above mentioned research.
3. Serious consideration should be given to the improvement of certain job factors such as security, salary, social approval, heavy work load, and advancement opportunities which seem to be the causes of lack of satisfaction in teaching vocational agriculture. □

## Can they - -

(Continued from Page 176)

use of their abilities and also the importance of teaching the "doing" jobs.

The demand for a course in animal industry skills offered during the three weeks summer session at Michigan State College is indicative of its being one satisfactory method of acquiring some of the more important abilities in the livestock enterprises.

There is need for an increased number of in-service education meetings on animal husbandry whereby teachers would have an opportunity to acquire some of the more important abilities in these enterprises.

Some teachers of vocational agriculture do not attend college after receiving a permanent certificate or a master's degree; the in-service meetings should be of special benefit to these teachers.

Another method of meeting these needs is to allocate time during the annual conference for teachers of vocational agriculture for special sessions dealing with the livestock enterprises.

*Placement of teachers.* In communities where livestock enterprises are of the greatest importance local administrators should continue to give increased consideration to selection of teachers who possess sufficient abilities to teach the more important jobs. Those concerned with placement at the educational institutions should give increased consideration to technical qualifications of candidates when asked to make nominations for communities where livestock enterprises are important. □

\*Taken from a Ph.D. dissertation entitled "The Interests of Teachers of Vocational Agriculture as Related to Job Satisfaction," University of Minnesota, 1952, which has been filed with University Microfilms, 313 N. First Street, Ann Arbor, Mich.

There are qualifications to be met  
in order to

## Progress in establishing our profession

RALPH E. BENDER, Teacher Education,  
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Ralph E. Bender

**PROGRESS** is being made toward the establishment of teaching as a profession. The idea that any person who knows subject matter can teach is disappearing. Recognition of the need for special competencies in directing the learning process is in evidence on the

part of laymen as well as teachers. This change is not happening by chance. It is coming about through efforts on the part of persons engaged in the profession directed to some extent toward the development of an informed public. Continued effort must be exerted in this direction. Herein are listed selected professional characteristics and some of the problems involved in the further establishment of teaching as a profession.

### A Professional Person Develops and Maintains Competency

Foremost among the characteristics of a professional person is that he is competent. He possesses those special qualities and abilities that are necessary to perform the desired services in an effective manner. It is for this reason that a student learns more and better with a teacher. If this is not true we cannot justify teaching as a profession.

Many factors have been included in the description of a competent teacher. Among them would be the possession of a growing functional philosophy of life, an understanding of the social heritage and of the community served as well as effective participation in the community toward making it a better place in which to live. A thorough understanding of people and a command of the principles of teaching and the learning process satisfactorily applied in the area of interest and need of the student are likewise necessary. In vocational agriculture, as in all areas, the teacher must have a basic understanding of technical and practical subject matter as well as a broad general education. This kind of competency must be developed in a program of preparation previous to admission to our profession.

In agricultural education we are challenged continuously by the problem of providing an adequate undergraduate curriculum within a four-year period. Such a curriculum needs to be broad and yet intensive enough in agriculture, general education and professional courses and experiences to assure the graduate a successful start in the profes-

sion. Increasing attention must be given to more coordination of theory and practice if meaningful programs are to be developed. We need to identify more clearly the competencies needed by teachers and determine how they can best be developed.

In any profession, the public, as well as those engaged in the profession are somewhat protected through standards of admission and certification on the basis of the continuous development of competency. It is recognized that a pre-service program only does not adequately enable a professional person to maintain competency over a period of many years. The problem of identifying standards and qualifications for various certificates needs further attention. We have placed too much emphasis upon the mere acquisition of credit beyond the initial certification, rather than measured competency. Reciprocal relations among the various states is another problem in certification. More and more, we are experiencing the transfer of teachers from one state to another. It is reasonable to expect that if adequate standards are developed it will be feasible to have certificates which would be accepted anywhere.

The current shortage of persons entering the teaching field is a real challenge to the profession. There are too many under-trained persons who are employed on a temporary certificate basis. It may appear to some that the shortage of teachers will have a desirable tendency to improve salaries, however, incompetent persons in the profession are more likely to have an opposite effect over a long-time period. A program of recruitment that will assure an adequate number of persons applying for admission to the ranks is an obligation of any profession.

Teachers of vocational agriculture realize that changes are being made rapidly in agriculture and in education. The continuance of compe-



Members of a profession need to assume responsibilities in improving that profession. This group of Ohio teachers of vocational agriculture are members of the State Advisory Committee for the Ohio Association of Future Farmers of America. They work with members of the supervisory staff in improving this phase of their program.

tency, therefore, necessitates a program of in-service education. Teachers as well as all professional persons must be open-minded and possess a spirit of inquiry. What is good today may not be good tomorrow. Objectives that once were established need to be re-examined and approved in terms of the present situation. Old methods and techniques likewise may need to be replaced by newer and more effective means.

In agricultural education many in-service opportunities are available. The teacher-education and supervisory staffs should give increasing attention to an evaluation of their program in terms of meeting the needs of the teachers who are desiring to grow in professional competence. The problem of providing an in-service program of general education, professional methods and technical agriculture should be developed with and by the teachers, rather than for them. Teachers should take full advantage of opportunities to improve themselves and their profession. A truly professional person will initiate and conduct a program of in-service improvement rather than be coerced into such activity.

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These future teachers are learning to use one of the tools of teaching.

## Evaluation of - -

(Continued from Page 177)

2. The desire to receive instruction has been implied in the category "if trained would perform this job." It was assumed that if 15 per cent or more checked this category, it would suggest that increased emphasis be placed on instruction in that activity.

3. A graduate may have checked the category "prefer to hire this job done" indicating that the need for doing the activity existed on the farm but because of the intricacy in requirement of tools, technical training, etc., he preferred to hire the job done. It was decided that even though the need for performing the job activity existed, because it is more often hired done, less immediate emphasis should be placed upon its educational significance from the standpoint of desire and performance by the farmer. It was therefore arbitrarily decided that if the percentage value of a certain activity in category III (*prefer to hire the job done*) and IV (*have no need for doing this job*) when added together totaled 50 per cent or more, less significance be attached to its immediate attention in a program of instruction in farm mechanics.

### Significance of Activities

By areas, a total of 70 per cent or more graduates showed "total need" for the following job activities:

#### Farm Power and Machinery

Calibrate seeding, spraying and fertilizing equipment.....	90.9
Figure cost of machine operation.....	85.7
Determine size of pulleys and sprockets.....	82.6
Service and adjust engine fuel system.....	78.7
Construct labor saving machine (wagons, elevators, etc.).....	71.3
Service and adjust engine ignition system.....	71.3

#### Farm Carpentry

Lay wood shingle, composition or metal roofing.....	91.9
Repair foundations.....	88.8
Mix concrete to specific standards.....	88.4
Lay out foundation for building.....	85.9
Mix and apply paints.....	84.7
Develop pencil sketch plans.....	82.3
Lay out common rafters.....	80.4
Construct farm building.....	74.9

#### Soil and Water Management

Use a farm level.....	77.5
Read contour and soil survey maps.....	74.2

#### Rural Electrification

(No activity indicating "total need," due to low per cent reporting having performed the job activities in this area.)

#### Water Supply and Sewage Disposal

Assemble pipe and pipe fittings.....	89.9
Select pipe and pipe fittings for a job.....	85.3
Cut pipe threads.....	84.4
*Plan and develop septic tank sewage disposal system for farmstead.....	73.9
Plan sanitary water system.....	73.3

#### Farm Shop Work

Recondition keen edge hand tools.....	96.5
Set iron rivets cold.....	93.5
Clean and prepare parts to solder.....	90.9
Solder seams in metal parts.....	90.0
Shape metal with hand file.....	87.5
Sharpen mower knives, ensilage cutter or grinder knives.....	86.6
Solder electrical connections.....	85.3

Sharpen metal cutting twist drill.....	85.9
Identify common metals.....	83.0
Cut external and internal threads (taps and dies).....	82.0
Accurately measure and locate points on metal.....	77.7
Weld steel or cast iron with the electric arc welder.....	76.5
Prepare metal parts for welding.....	75.1
Build up worn surfaces by welding.....	74.3
Solder copper tubing and parts.....	74.3
Select welding rods and materials.....	74.2
Cut steel with cutting torch.....	72.9
Hand ream holes to accurate fit.....	72.6
Bronze-weld steel or cast iron.....	70.6
Weld steel using oxy-acetylene method.....	70.0

### Need for Training

The desire for training was believed to be indicated in the category "if trained would do this job." It was arbitrarily decided that if 15 per cent or more of the graduates reported this desire, the need for increased emphasis in the area would be implied. By areas, the desire was indicated in the following activities:

#### Farm Power and Machinery

Service and adjust engine fuel system.....	26.8
Service and adjust engine ignition system.....	23.1
Construct labor saving machines (wagons, elevators, etc.).....	22.9
Determine size of pulleys or sprockets.....	15.3

#### Farm Carpentry

Lay out common type rafters.....	24.2
Construct farm buildings.....	17.0

#### Soil and Water Management

Use a farm level.....	20.9
Read contour and soil survey maps.....	19.0
Develop irrigation system for farm.....	17.0
Determine irrigation water flow.....	15.1

#### Rural Electrification

Determine size and type of motor for a given job.....	44.1
Change electric motor voltage.....	33.0
Check electric wiring circuits.....	32.3
Plan and develop farmstead wiring system according to code.....	31.4
Reverse electric motor rotation.....	28.8
Figure electric power costs.....	28.4
Service an electric motor.....	26.7
Construct electric brooding equipment.....	18.4

#### Water Supply and Sewage Disposal

Plan sanitary water system.....	20.3
Flare and fit copper tubing.....	18.3
Plan and install sanitary household plumbing.....	16.7
Plan and develop septic tank sewage disposal system for farmstead.....	15.7

#### Farm Shop Work

Identify commonly used metals.....	39.2
Operate acetylene gas generator.....	38.2
Hard surface tillage tools.....	37.6
Weld steel using oxy-acetylene method.....	35.9
Bronze-weld steel or cast iron.....	34.3
Select welding rods and materials.....	34.0
Build up worn surfaces by welding.....	33.1
Weld steel or cast iron with the electric arc welder.....	31.5
*Calculate and form seams in sheet metal.....	31.0
Cut steel with cutting torch.....	30.4
*Develop and form seams in sheet metal.....	38.8
Prepare metal parts for welding.....	27.1
Heat treat carbon steel parts (temper a cold chisel).....	26.8
Cut key ways, oil grooves, etc., with hand chisel.....	26.1

Reforge and shape tool steel (chisel, punches, etc.).....	25.8
Solder copper tubing and parts.....	23.5
*Operate and turn metal with metal cutting lathe.....	23.3
Hand ream holes to accurate fit.....	21.9
Accurately measure and locate points on metal.....	20.9
*Cut metal with power driven hacksaw.....	18.0
*Forge and sharpen tillage tools (plow shares, sweeps, etc.).....	17.6
Sharpen metal cutting twist drill.....	16.7
Solder seams in metal parts.....	15.5
Sharpen hand operated and table type circular saw blades.....	15.4
Solder electrical connections.....	15.0
*Activities for which a majority of the graduates implied having no immediate need.	

### Where Need Is Less

By a combination of categories III (*prefer to hire this job done*) and IV (*have no need for doing this job*) a majority of the graduates indicated less immediate need for the following activities by areas:

#### Farm Power and Machinery

Make major engine repairs (valves, bearings, etc.).....	65.7
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#### Farm Carpentry

(No activity in this area)

#### Soil and Water Management

Determine irrigation water flow.....	73.5
*Develop irrigation system for farm.....	67.6
Develop soil drainage system.....	65.9
Lay out dam for farm pond.....	65.4
Locate and construct waterways.....	55.2
Develop terrace system.....	51.6

#### Rural Electrification

*Service an electric motor.....	57.9
*Change electric motor voltage.....	52.3
*Construct electric brooding equipment.....	51.6

#### Water Supply and Sewage Disposal

(No activity in this area)

#### Farm Shop Work

Sharpen chain type saw.....	75.8
Forge and sharpen tillage tools (plow shares, sweeps, etc.).....	73.5
Operate and turn metal with metal cutting lathe.....	67.5
Cut metal with power driven hack saw.....	55.6
Calculate and form seams in sheet metal.....	55.3
Develop patterns for sheet metal parts.....	49.7
*Sufficient number checked desire for training to indicate significance.	

Varied opinion existed in job activities in the following areas which indicated that the practicability of performance by the farmer may be in question:

#### Farm Power and Machinery

Perform major service and repairs on farm equipment

#### Farm Shop Work

Recondition hand wood saw  
Hard surface tillage tools  
Heat treat carbon steel parts

## Theme for March—

## "Improving Supervised Farming Programs"

# Good teaching keeps the teacher up-to-date . . . Being well-informed is a result as well as a cause of good teaching

KENNETH L. RUSSELL, Teacher Education, Sam Houston State Teachers College



Kenneth L. Russell

**T**EACHERS OF vocational agriculture sincerely believe that one of their greatest problems is keeping themselves posted on new techniques and knowledge in agriculture. It need not be the problem that many believe it to be if good teaching techniques are followed. In

fact, good teaching automatically keeps the agriculture teacher up to date through the eyes of his students.

A glance at any bulletin file, magazine rack, or book shelf in the vocational department would show that it is impossible for the agriculture teacher to read all of the new and important information on agriculture which is coming off the press. He cannot hope to keep abreast of this progress if he depends entirely upon his own eyes to read this vast flow of information.

Wise teachers of vocational agriculture keep up to date through the eyes of their students, as they make use of the problem-solving method of teaching. This method does not consider the teacher as a "pitcher" full of knowledge and the student as an empty "mug" to be filled. On the contrary, the problem-solving approach relies upon the student to do his own "filling" under the guidance and direction of a teacher. This method of teaching places responsibilities for reading and thinking upon the student. There can be no evasion of this responsibility just because the path of least resistance on the part of the student may lie in the direction of depending upon the teacher to know all the answers and to do all the reading and thinking.

## Pit-falls of Discussion Method

The problem-solving method of teaching makes much use of discussion, and herein lies the downfall of many teachers. Unless the teacher realizes that discussion must be based not only upon experience of the student, but also on seeking out new facts and information through reading and studying books, bulletins and pamphlets, the discussion process becomes merely a "bull" session. It simply brings together the ignorance of the student and the incomplete knowledge of the instructor. It appears quite evident that sound discussion cannot be conducted upon a basis of personal experiences, or upon the ability of the instructor to do the reading and problem-solving of the student.

Problem-solving techniques in teaching follow a rather definite pattern. In the first place there must be a problem based

upon a real life need of the student. In determining this problem, ample use of discussion may be made in discovering what the student already knows about the solution of the problem. If the student can already solve the problem out of his own experiences, there is no need continuing the study further. But this is the exception rather than the rule. Usually the student cannot solve the problem out of his own experiences. If he depends entirely upon the teacher to furnish him with the information necessary, he is not developing his own ability to solve farm problems. The teacher is not a walking encyclopedia of farm knowledge. It is not his job to know the answers to all questions which students or farmers may ask. His real job is to teach the student methods and techniques of solving problems through the use of his own personal experiences, talking with other farmers, listening to radios, reading farm magazines, books, bulletins and watching television.

## Teaching Is Not Telling

If the agriculture teacher considers himself the chief source of information, he has failed. If he considers his job one of guiding students to use all the modern techniques of communication, he automatically keeps himself up to date through participation and leading discussions of students as they solve their own problem in classroom, shop, and farm situations. In other words, he does much of his professional "reading" through the eyes of his students. Students who have been taught to read and listen and discuss problems with their friends and other students will bring to the classroom, or discover in the classroom, practically all of the new facts and techniques that are published in the current material. This means that the agriculture teacher must maintain and use all of the modern teaching techniques and devices. Books, recent bulletins, and current magazines must be used. He must make plans for the use of motion pictures. He must guide students in the preparation of charts, models, and collections of samples and specimens. Notice that he must guide students, not do it for them. The teacher is not the slave of the student, but the one who leads and guides and directs the student in solving his own problems. This indicates that the teacher must make definite plans, and provide opportunities, for the stu-

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## PROFESSIONAL RECOGNITION STIMULATES PROFESSIONAL PRIDE



The men shown in the picture above were honored at a special banquet at Laramie, August 6, during the 1953 Summer Conference of Wyoming Vocational Agriculture teachers.

At this banquet each was presented with either a twenty or thirty year service key signifying his having worked in the vocational agriculture program in Wyoming for that length of time.

About eighty vocational agriculture instructors, wives, and special guests attended this banquet.

From left to right the men are:

**Jack Ruch:** Graduate of University of Wyoming 1932. Taught vocational agriculture at Hillsdale, Burns, and Douglas. State Supervisor Agricultural Education from 1941 to 1946; Teacher Trainer, University of Wyoming from 1946 to present time.

**Sam Hitchcock:** Graduate of University of Wyoming; taught vocational agriculture at Cokeville, Buffalo. State Supervisor Agricultural education from 1935 to 1941; State Director Vocational Education from 1941 to present.

**Paul Sweetzer:** Graduate of Colorado A & M. Taught vocational agriculture in Colorado three years. Has been at Cody since 1925.

**Percy Kirk:** Graduated from University of Wyoming in 1930; taught agriculture at Mountain View, Laramie, and Sheridan. State Supervisor of Agricultural Education since 1947.

**C. A. Willi:** Started teaching vocational agriculture at Torrington in 1917, and has been there ever since.

# How a Vo-Ag teacher uses his time

R. E. MOECKEL, Vo-Ag Instructor, Onsted, Michigan



R. E. Moeckel

**D**URING a committee meeting of the Michigan Association of Teachers of Vocational Agriculture, this question was discussed. It was suggested during the discussion that the teacher keep a daily record to determine how his time is spent. As a result of this suggestion by Charles Langdon, a Michigan supervisor, a daily record was started January 27, 1952, and finished January 26, 1953.

The record of activities was divided into the two general areas of school and non-school activities. Records were kept in a spiral notebook. A sample entry and the code used are shown in Table I. The entries were made daily in most cases. The daily record was broken down into hours from 6:00 a.m. to 12:00 noon, with margins for earlier or later entries if necessary. Specific activities were recorded in as small a unit as 15 minutes, but usually in 30-minute and 60-minute units. Time for bathing, shaving, grooming, and so forth at the beginning of the day was not included.

Before the summary of this record is studied it might be helpful to consider the extent of the program of the Onsted Vocational Agricultural Department. There were three high school agricultural classes in the year, one adult farmer class, supervision of one other adult class, supervision of a canning center, an FFA Chapter, an advisory council, and summer school.

## Results of the Study

The year was summarized in four arbitrary periods according to the time and convenience of the teacher to make the summary. The results of the diary by periods, in percentages, for school activities only, are shown in Table II.

Conclusions that might be drawn from the above information are difficult to de-

termine because no attempt was made to compare the figures with any established standards. However, the following remarks might be made about the time spent on school activities:

1. A large percentage of the time was spent with all-day agriculture classes including the FFA Chapter.
2. All-day students were not visited as much as had been assumed.
3. Adult farmer students were not visited as much as had been assumed.
4. Summer School for a degree and certification took a considerable amount of time.
5. Professional activities such as conferences, committee meetings and study-

3. Very little actual recreation was possible, (less than one-half hour per day) outside of being with the wife and two children.

4. Approximately 40 minutes was spent daily in religious work, prayer, church, et cetera. This time spent has been well repaid in divine assistance and spiritual uplifting as a leader of young people.

5. Approximately 44 per cent of the waking hours were spent on non-school activities.

## An Average Day

The average day resulted in about 15.4 hours devoted to school and non-school activities. The average working day, excluding 52 Sundays and six holidays, showed that 10.3 hours daily were spent on school activities. This would mean that nearly 62 hours were used for work per week. □

Table 2

Summary of Per Cent of Time Spent on School Activities Only

	Jan. 27- May 31	June 1- Sept. 1	Sept. 2- Nov. 7	Nov. 8- Jan. 26	Total
Adult Farmer.....	6.5	7.0	1.5	9.1	6.4
Adult Farmer Visits.....	4.0	6.1	3.0	6.5	4.7
All-day Agriculture.....	70.5	26.1	71.0	65.0	58.7
All-day Agriculture visits....	4.0	5.6	5.6	4.0	4.6
High School.....	2.0	.4	3.7	2.0	2.0
Professional.....	4.0	7.6	8.0	6.5	6.1
Other Adults.....	4.5	.3		.9	2.0
Advisory Council.....	3.0	1.6	2.0	2.4	2.3
Canning Center.....	.5	2.7	2.0		1.1
Summer School.....	0.0	40.6	1.0	2.8	10.6
Miscellaneous.....	1.0	2.0	2.2	.8	1.5

ing new professional developments took up much more time than was assumed.

6. Approximately 56 per cent of the waking hours were spent on school activities.

## Results for Non-School Activities

There was no attempt to make a detailed summary of these activities. The following remarks might be made:

1. Twenty-two per cent of the waking hours were spent at home. (Not including meals.)
2. Meals and lunches took about 1.1 hours daily.

Table 1

Hours	A.M.											P.M.										
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11				
1952 Nov 11	H	L	A	A	A	A	L	A	A	A	V	A	L	A	A	A	A	C				
Nov. 12	H	C	A	A	A	A	L	A	A	A	A	A	L	H	H	C	C	C				

Actual excerpts from the diary showing the way the record was kept.

## School activities

- AF —Adult farmer
- AFV—Adult farmer visit
- A —All-day agricultural classes
- AV —All-day agricultural class visits
- HS —Other high school activities
- P —Professional activities
- AO —Other adult class work
- AC —Advisory council
- CC —Canning center

## Non-school activities

- H —Home
- L —Meals
- C —Christian
- R —Recreation
- S —Shopping
- V —Visiting relatives or friends
- G —Garden
- G —General

## Good Teaching - -

(Continued from Page 181)

dents to develop good reading habits, good listening habits, and good attitudes toward participation in field trips and other activities carried on in the agriculture department.

## Avoid Pooling of Ignorance

The teaching process must not be a haphazard one in which there is much discussion and no decision. Merely talking about a problem is in no sense of the word solving the problem. Discussion should lead to the point where further facts and information are needed. To allow the student to follow the path of least resistance leaves little reason for the existence of the school. He can remain static, educationally, at home. The school is a place for learning. It is not a place for pooling the superstitions and inadequate experiences of the students with the incomplete knowledge of the teacher. Little can be expected from such a process. There needs to be a definite time allowed for searching for new information. Organized reading and study by the student is still an essential part of teaching vocational agriculture. The teacher who does not keep up to date through the eyes of his students will find himself hopelessly antiquated. □

# Vo-Ag teachers and extension agents work together

Experiences in Ohio in bringing about cooperative effort

RALPH J. WOODIN, Teacher Education, The Ohio State University



Ralph J. Woodin

"WE had better get the teachers together at the County Agent's office before we decide about this." The speaker was a teacher of Vocational Agriculture who was discussing plans for making use of farm outlook information in his own county. He was presenting an

example of one of the ways that Ohio Vocational Agriculture Teachers and County Agricultural Agents work together to help the farmers in their counties. Here are some other examples. Just this fall, the Agricultural Extension Service held a Communications Workshop at the Ohio Agricultural Experiment Station at Wooster in order to plan for more effective use of radio, television and other means of mass communication for reaching farmers. A representative of Vocational Agriculture was asked to be present at the meeting and to join with others in helping set up policies. Another example occurred last year when the Ohio Legislature met and its members were informed of the need for funds for education in agriculture. An action committee made up of farmers which contacted the Legislature discussed Vocational Agriculture, Agricultural Extension, the College of Agriculture and the Agricultural Experiment Station all in the same breath. Incidentally, a fine increase in state appropriations was secured for each of these services. Other examples could be found at county fairs all over Ohio where teachers and agents work together in a harmonious manner to give the young people in their counties an opportunity to present their program to the public and to gain worth-while educational experiences.

## The Need Is Not New

Extension Agents and Teachers of Vocational Agriculture have been located in most Ohio counties for 30 years or more. During this time, Ohio farmers have come to recognize the values of vocational agriculture and Agricultural Extension work and to appreciate the efforts of workers in both fields.

Since the two groups began to function in Ohio, administrators and supervisors in both services have been mindful of the objectives and functions embodied in the Smith-Lever Act of 1914 and the Smith-Hughes Act of 1917. It is understood by both groups that:

1. Both have common broad objectives.
2. Objectives could best be obtained by correlating the efforts of all workers within the groups.

3. Each group has certain functions and responsibilities within the framework of the Legislative act providing the funds.

With these principles in mind, both groups have cooperated through the years in many activities on a state and local basis. The results have been beneficial to farmers, to teachers, and to agents. L. L. Rummell, Dean of the College of Agriculture and Director of the Ohio Agricultural Experiment Station calls this "agriculture's team," and on this team, he names the Experiment Station, the College of Agriculture, the Extension Service, and Vocational Agriculture.

## Need for Mutual Understanding

One step toward bringing about working relationships between these two services has been a continuing policy through the years of the state staffs getting together for the purpose of discussing current problems. At a meeting of the two state staffs in 1951, some consideration was given to further need of cooperation between the two groups. The following understandings were developed and summarized at this meeting:

1. That the over-all objectives in both Vocational Agriculture and Extension are directly concerned with the education of farm people.
2. That the total educational program for farm people may be most effectively developed when both agencies work harmoniously together.
3. That improved relationships between Extension and Vocational Agriculture are desirable in order to attain the objectives which we both hold.
4. That existing relationships within counties in Ohio ranged from highly desirable to those in considerable need of improvement.
5. That better programs could be planned if more teachers of Vocational Agriculture and Agricultural Extension Agents were aware of the advantages of working together and knew how to work together.

6. That a study should be made of existing relationships in ten counties where such relationships were of a desirable nature.
7. That County Agriculture Extension Agents and Teachers of Vocational Agriculture should be acquainted with the results which were obtained from such a study.

## Procedure Used in Making the Study

The relationships between teachers of Vocational Agriculture and the County Extension Agents as well as their joint county programs were studied in 10 Ohio Counties. The counties included in the study were selected by supervisors of Vocational Agriculture and Agricultural Extension as having developed desirable relationships.

In each county two members of the Agricultural Education Staff interviewed the teachers as a group while two supervisors of the Agricultural Extension Service interviewed the County Extension Agents. Both pairs of interviewers used a similar guide in conducting the interviews. Following the interviews a joint report was compiled and studied by the state staffs of both groups.

## Findings of the Study

*Good relationships between Agricultural Extension Agents and Teachers of Vocational Agriculture offer important advantages as evidenced in the following outcomes:*

1. The personnel in all of the counties studied favored continuing and expanding their joint programs.
2. In eight of the ten counties, both groups had worked together in an organized way for ten or more years and in one county over twenty years.
3. All of the county groups listed advantages which were derived from good relationships. Among the more important were the following:
  - a. "By working together, we have been able to provide a broader and more effective program which reaches more farm families."

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Vocational Agriculture Staff Members and Staff Members of the Ohio Extension Service meet together regularly to discuss current problems.

## Vo-Ag Teachers - -

(Continued from Page 183)

- b. "We are able to avoid lost motion and duplication of effort."
- c. "Members of each group are able to assume their responsibilities by knowing what others are doing."
- d. "More effective means of helping farm families understand the place of both agencies in the community."
- e. "Helps eliminate friction among farm groups and among ourselves."
- f. "Extension agents get acquainted with more FFA members who may become future extension cooperators."

*Good relationships between extension agents and teachers of vocational agriculture seem to come about through planned programs involving joint projects and activities within the county.*

1. In all of the selected ten counties, teachers and agents were working together on joint activities.
2. Both extension agents and teachers of vocational agriculture in these counties were of the opinion that programs of joint activities were invaluable as a means of developing good relationships.

### Plans for organization:

1. Among the ten selected counties the programs varied from those including only one activity to those including a dozen or more joint activities. Only two counties had written annual programs, but six had planned annual programs.
2. The type of organization showed considerable variation from county to county. In six of the counties there were six or more meetings held per year. In seven cases, officers were elected from the teachers with the county agent acting as secretary in three cases. Usually, the meetings were held in the county agent's office. In six counties at least one social meeting, which included the wives, was held. Such meetings were usually held in the members' homes.

*Activities Reported in Ten Selected Counties.* Many and varied joint activities were reported in ten counties included in the study. Rather than report all of these individual activities, the activities have been developed and typical examples have been reported under each group. In all of the counties studied the County Junior Fair was one of the more important joint activities. In seven of the counties county-wide groups such as steer, dairy, and corn groups were in operation. Examples of joint activities are:

#### 1. Fair exhibits and county groups.

- a. "We have a 4-H and an FFA Junior Fair Board which meets jointly ahead of the fair to determine policies."
- b. "We have a single Junior Fair Board with equal representation of 4-H and FFA members."

- c. "We jointly sponsor a sale of steers at our county fair."
- d. "We have a county dairy club which enrolls both FFA and 4-H members."
- e. "Our county steer club is operated by both FFA and 4-H members. We purchase feeders, assist in financing them and sponsor a show and sale at the County Fair."
- f. "We use same judges for all classes at the Junior Fair."
- g. "To get coordination our boys and girls use joint activity at the fair—why separate them?"

#### 2. Additional 4-H and FFA activities.

Every county reported additional activities where teachers of vocational agriculture and county agricultural agents "traded help." The following are typical examples:

- a. "We (vocational agriculture teachers) assist in a county 4-H officer training meeting and in turn, the county agents help at our FFA officer training meeting and at our chapter farmer initiation."
- b. "Extension agents help judge our county FFA public speaking contest."
- c. "Teachers help enroll boys in 4-H."
- d. "FFA members serve as 4-H assistant advisers and junior leaders."
- e. "We sponsor joint judging contest in the spring for both FFA and 4-H members."
- f. "We encourage vocational agriculture students who wish to remain in 4-H club work to elect projects in leadership and to assume positions of leadership in their 4-H club."
- g. "Our FFA members who are also enrolled in 4-H projects elect 4-H production projects in different farm enterprises. Both the agents and the teachers recommend that 4-H and FFA projects be elected in different enterprises."

#### 3. County program planning.

Eight of the counties reported activities which had to do with county program planning. Some of the activities were concerned with determining what should be included in county programs, others with developing the plans for action, and very few were concerned with evaluating the plans. The following represent typical examples:

- a. "Vocational agriculture teachers have representations on county special interest committees and county advisory councils."
- b. "Agents and teachers discuss the total educational program in the county with local planning committees."
- c. "Agents conduct training schools for teachers, veteran instructors, and young farmer leaders by securing extension specialists as instructors."
- d. "We plan county plowing contest with the Board of Supervisors of

the Soil Conservation District. Teachers and agents assist in carrying out the program."

- e. "We plan a county-wide adult and young farmer program so that we can all make use of help from the Extension Service."
- f. "The teachers and the agent in our county worked together to bring about the formation of a county Dairy Service Unit and a county Soil Conservation District."

#### 4. Exchange of information.

Personnel in all of the counties reported activities having to do with exchange of information, publicity, and teaching materials. The following are typical activities:

- a. "The teachers are on the extension mailing list and vice-versa."
- b. "Teachers publicize the work of special interest groups in the school area."
- c. "The extension newsletter mentions the activities of FFA Chapters in the county."
- d. "One teacher of vocational agriculture is placed in charge of publicity for vocational agriculture in that county."
- e. "The associate county agent serves as a coordinator of publicity for the county."
- f. "The Extension agent supplies bulletins and other subject matter to the teachers in our county."

### Effect Upon Programs

The results of this study have been widely used in Ohio. As a first step, a series of meetings were held in each vocational agriculture district in Ohio. These meetings were in charge of representatives of the state staffs of vocational agriculture and agricultural extension. All teachers and agents in each district were in attendance. Results of the study were presented, and teachers and agents had an opportunity to exchange experiences on the type of organization which they had found most effective in their own counties. In some cases plans for county organizations of teachers and agents were initiated while in others additional joint activities were included in county programs.

The results of these meetings have brought about continued progress in improving the relationships between Vocational Agriculture Teachers and County Agricultural Agents in their counties. In Ohio we believe that teachers and agents must learn to work together and develop their own programs in their counties rather than to have a program handed down to them.

This study has been one of a number of joint activities which have been carried out with the Agricultural Extension Service, and one of the types of activities which will no doubt be continued through the years. We in Ohio believe that relationships with other groups have to be developed over a period of years and that they require continuing attention. This study represented one phase of a long-time program of working with other educational groups in our own field. □



D. N. Bottoms, Associate Professor, Agricultural Education, is shown giving a demonstration on tool sharpening during the farm mechanics workshop held at Auburn.



Vo-Ag teachers look on as Tom Pruitt, Camp Hill, demonstrates the skill he learned with the acetylene welder during the farm mechanics workshop held at Auburn.

## The farm mechanics workshop

### A phase of professional improvement for teachers of vocational agriculture in Alabama

D. N. BOTTOMS, Teacher Education, and WILSON CARNES, FFA and Vo-Ag Editor, Alabama Polytechnic Institute

**A** WORKSHOP in farm mechanics for teachers of vocational agriculture, with the objective of keeping pace with the rapid changes in farm mechanization, was held at Alabama Polytechnic Institute in Auburn, Alabama, during the summer of 1953. The idea for the workshop came from the teachers of vocational agriculture. The teachers from the teacher training centers for agricultural education which are located around Auburn decided there was a need for improvement in farm mechanics in these centers.

The vocational agriculture teachers met with their district supervisor and members of the teacher training staff at Auburn to see what could be worked out; and, after thorough discussion, it

was decided that in order to get the needed training, a five-day workshop would be held at the college. Later the workshop was lengthened to seven days to cover adequately the topics to be studied and to allow for a different type of meeting during the last day. A member of the Teacher Training Staff was in charge of the workshop.

Realizing that county superintendents and principals of local high schools were not informed as well as they would like to be, the teachers invited them to attend the last meeting.

At the initial meeting the following program was worked out for the workshop: (1) Use of space in the farm mechanics shop. (2) Locating and setting up different areas in farm me-

chanics shop. (3) Arrangement of all items in the shop. (4) Developing arc welding skills. (5) Developing acetylene welding skills. (6) Farm electricity. (7) Financing a farm mechanics program.

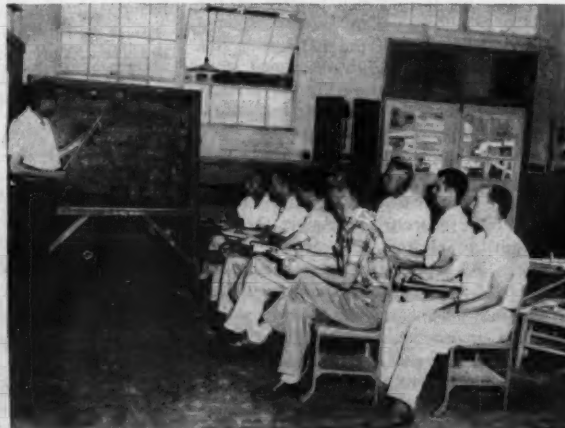
Some of the teachers frankly admitted that the reason they were not doing a better job of teaching farm mechanics was that they did not possess many of the farm mechanic skills needed. Some of these deficiencies were corrected by the time the workshop ended.

On the last day of the workshop, those present included the county superintendents of education where the schools were located, the high school principals, the district supervisor of vocational agriculture, the state supervisor of agricultural education, a member of the state legislature, a county board of education member, plus the teacher training staff at the college. The program that was presented and discussed included: (1) Value of a program of this type to teachers of vocational agriculture throughout Alabama. (2) Rapid changes in farm mechanization. (3)

(Continued on Page 189)



Superintendents, principals, and vocational agriculture teachers all make attentive students when the topic being discussed applies directly to their school program. This picture was made the last day of the farm mechanics workshop. School officials were invited to attend this meeting so they could become better informed as to the needs and problems of farm mechanics in trying to keep abreast with today's modern farming methods.



Vo-Ag teachers in one of their meetings at the farm mechanics workshop held in Auburn, Alabama. This session was on shop arrangement. At left is D. N. Bottoms, Associate Professor, Agricultural Education, who was in charge of the workshop. Vo-Ag teachers are, from left to right: Tom Pruitt, Camp Hill; J. A. White, Beauregard; L. H. Davis, Auburn; Robert Clark, Reeltown; P. A. Alsbrook, Notasulga; W. O. Lance, Dadeville, and Frank Killough, Tuskegee.

Your pupils should know about - -

# Agricultural curriculums in the junior colleges\*

as one means of continuing their education

LOREN D. PHILLIPS, Coordinator of Agriculture, Chico State College, Chico, California



Loren D. Phillips

SINCE the end of World War II, an appreciable increase in the numbers of agricultural departments has taken place in the junior colleges of the United States. These new departments have arisen in both newly established junior colleges, which commenced operation with agricultural curriculums, and in the older junior colleges which have developed or expanded their offerings to meet community needs.

The California Agricultural Teachers' Association's Junior College and Adult Department, being concerned with junior colleges in general and agricultural courses of study, in particular, recognized the need for research in the area of the agricultural curriculum. That the curriculum was affected by many related factors, such as available facilities, teaching methods, and administrative controls, was taken into consideration. The C.A.T.A. "National Junior College Agricultural Curriculum Survey Committee" was formed to study the problem, in cooperation with the U.C.L.A. doctoral research of the author.

## The Study

Questionnaires were returned from 365 administrators, agricultural department heads, all-day instructors, and I.O.F.T. personnel, for a percentage response of 65.5 percent. Ninety percent of the department heads and 69.6 percent of the all-day instructors sent back completed forms. Ninety-six of the 100 junior colleges found to offer agricultural curriculums and courses during the 1950-51 school year were represented through personnel questionnaire responses. The other four received specific curricular representation through their catalogues.

In the two articles allocated to this study, it is, of course, possible to point out but a selected few of the many findings of a questionnaire survey of nearly 100 questions. It should be understood that this was a pilot study which covered many areas of junior-college agricultural education, the purpose of which consisted of the determination of what junior-college people believe and what junior colleges actually were doing with respect to the multifarious phases covered by the investigation. Although I.O.F.T. programs and personnel were included in the study, their decline and

space limitations mitigate against their special consideration here.

## Philosophy and Purpose

The philosophy of the junior-college agricultural curriculum seems to imply more than the mere training of students for jobs or transfer into curriculums of the upper divisions of four-year colleges. It implies, in addition, a certain amount of general cultural and life adjustment education, as well as leadership training, but not so much of either that occupational training is jeopardized. The total agricultural curriculum must strive to produce students who are (1) occupationally competent, (2) well-rounded and adjusted personalities, and (3) responsible and loyal citizens.

The primary purpose of this curriculum in the junior college, according to 90 percent of the respondents, should be to prepare students for farming at the end of one or two years (terminal). Seventy-eight percent felt that it should prepare for transfer to a four-year agricultural college, and 68 percent for related agricultural occupations at the end of one or two years (terminal). Only 35 percent of the respondents believed agricultural courses should be offered for their general education values. One of the greatest deficiencies, in relation to need, appeared in the area of the related agricultural occupations, as only half of the colleges listed such preparation as an objective. Yet, a great demand and countless employment opportunities existed in such fields as Feed Technology, Food Processing and Packaging, and Agricultural Machinery Repair and Maintenance. Specific training for related agricultural occupations was greatly neglected by most of the junior colleges, with a few notable exceptions, such as the New York State Agricultural and Technical Institutes and Pierce School of Agriculture, California.

## Who Are Served

The question of the extent of the area to be served found a general agreement among the respondents, that the first responsibility of the community college was to provide agricultural curriculums which best serve the people and the agriculture of the community. However, 98 percent of these people believed training should also be provided for placement opportunities outside the junior college district, and 96 percent of the junior colleges indicated that such training was included in their curriculums. In fact, over two-thirds felt "it should train for occupations in an extended geographical area which will provide significant job placement opportunities for graduates."

The "ideal" class size should range from ten to twenty students, particularly

in terminal curriculums, according to the respondents. The minimum required enrollments for terminal curriculums were reported by non-Smith-Hughes institutions to stand at a mean of 7.6 and by Smith-Hughes departments at a mean of 7.2. In transfer curriculums, the required mean number of students in non-Smith-Hughes schools was 7.6, and in Smith-Hughes schools the required mean was 8.0. Extenuating circumstances sometimes made it possible or necessary to offer a course for from only one to six students.

Should the agricultural curriculum be limited to men or also open to women? Whereas 43 percent of the respondents indicated their belief that the agricultural curriculum should be open to both men and women without differentiation, only 29 percent of the junior colleges indicated that this democratic procedure was actually practiced. On the other hand, 53 percent of the colleges, while not particularly encouraging women matriculants, did not bar them from enrolling. Thus, 18 percent barred women from taking agriculture.

## Basic Information Needed

In building and revising the agricultural curriculum, questions were asked relevant to the importance and usefulness of surveys, records and the advisory council for this purpose.

That the community-occupational survey is of much value in building and revising the curriculum was indicated by 92 percent of the respondents, 43 percent deeming it "essential" and 49 percent "very desirable." In actual practice, 56.5 percent of the junior colleges so employed it, either alone or in conjunction with the student-interest survey. Another 15.2 percent gave some consideration to such surveys, and only 20.3 percent developed their curriculums without recourse to surveys of any type. The student-interest survey was rated "desirable" or better by 90 percent of the participants, but only 23 percent of these considered it "essential." However, 60 percent of the schools made extensive use of student surveys, only 7.7 percent alone and 52.3 percent in conjunction with the community occupational survey.

With respect to the use of follow-up records of former students in curriculum planning, 34 percent of the respondents considered them "essential" and 63 percent "desirable." Actual use of such records, however, was made by only 53.4 percent on the non-Smith-Hughes schools and by 58.8 percent of the Smith-Hughes schools. Comments indicated that more use would be made of them were it not for the work involved in obtaining the information for the records, the lack of usable forms, and the fact that the agricultural curriculum was new in some schools and that they therefore had no, or few, agricultural students to follow up.

## Use of Advisory Councils

The lay agricultural advisory council was considered "essential" by 32 percent of the respondents and "desirable" by 62 percent, as opposed to only 6 percent who deemed it "unnecessary." The ad-

\*The first of two articles on this subject. The second will appear in March.—Ed.

ministrators rated the advisory council significantly higher than did the agricultural department heads and instructors. Only 39 percent of the departments, composed of 31 percent of the non-Smith-Hughes' and 64.7 percent of the Smith-Hughes', actually used advisory councils for curriculum construction and revision. Quite possibly, the influence of the state bureaus of agricultural education and *The Agricultural Education* magazine, both strong proponents of the advisory council, was largely responsible for this greater than 1:2 ratio.

Throughout the study, much of the opinion data were set-up on an "essential," "desirable," and "unnecessary" scale. A weighted-mean of relative importance was gained by weighting each "essential" response as 2.00, each "desirable" as 1.00 and each "unnecessary" as 0.00. The weighted means, although admittedly somewhat arbitrary, are expressed as follows.

Weighted Mean	Terminology
1.67 — 2.00	Essential
1.34 — 1.66	Very Desirable
1.00 — 1.33	Desirable
.67 — .99	Probably Desirable
.34 — .66	Probably Non-essential
.00 — .33	Unnecessary

In comparing the *selected facilities* needed for conducting an effective agricultural curriculum it seems advisable to use this rating system.

#### Some of the Findings

This study was concerned primarily with five types of *facilities* needed for conducting effective agricultural curriculums. Three of these, (1) the *specially planned and equipped agricultural classroom and laboratory buildings*, with a 1.719; (2) *specially planned and equipped farm mechanics shops*, with a 1.717; and (3) *school farms*, with a 1.674, weighted-mean, all received the arbitrary "essential" rating. The need for *audio-visual rooms and equipment controlled by the agricultural department* was given a 1.579 ("very desirable") and the *agricultural department library located in the agricultural department building* received a 1.307 ("desirable") weighted-mean.

It was found that 72 percent of the departments had specially planned and equipped agricultural classroom and laboratory buildings, 63.6 percent had specially planned and equipped farm mechanics shops, 66.7 percent had school farms, 73 percent had a room within the agricultural building adaptable for the use of audio-visual equipment; and 76 percent had audio-visual equipment whose use was controlled by the department; whereas only 55.2 percent had agricultural department libraries located in the agricultural department building.

The high opinion and operation ratings accorded the first three facilities, above, leave little to be shown as to their exceeding importance and need by most junior college agricultural programs. The need for school farms will probably continue to vary greatly according to the characteristics of the junior college community, transportation facilities available for laboratory fields trips, the home

environment of the agricultural students, and the type of agricultural program being offered. Nevertheless, in nearly all cases, it should prove a most valuable appendage of the agricultural program.

The junior college agricultural curriculum obviously can be no better than the quality of its presentation. Consequently, it was undertaken to discover, in so far as possible, which of the *teaching methods, practices and techniques* were favored and/or being used most extensively in its presentation.

#### Teaching Procedures

With respect to *reading assignments for terminal students*, the respondents thought that reading from "a good textbook and several selected reference books and agricultural bulletins" was "very desirable." Such assigned readings were accorded a "much use" rating on a scale, similar to that above, excepting the "much use" response was rated 3, the "some use" option 2, the "little use" choice 1, and the "no use" one zero. This scale was used to rate several of the following techniques.

The *classroom demonstration* was considered to be either "essential" or "desirable" by 99 percent of the all-day people, and was actually in considerable use by 90 percent of the respondents. It is of particular value when it is not possible to present field and shop demonstrations.

The *panel discussion*, as a teaching device, did not receive a particularly high opinion rating (a 1.175 weighted mean—"desirable"). In practice also it was given a weighted mean of only 2.084 ("some use"). While the panel discussion method stimulates thinking and interest on the part of teacher and student alike, there is little likelihood of its use being extended in the junior college because lack of time holds its use to a minimum.

The *problem method* was both considered "very desirable" and used rather widely. Due to its many advantages, it would probably be used even more, excepting it would be difficult to cover the entire junior-college agricultural curriculum if the method were used too much of the time or at the expense of other classroom techniques.

The *field trip* according to the opinions of all respondent groups, was an "essential" teaching device, receiving a weighted mean of 1.668. In operation, too, the practice was given "much use," with a weighted mean of 2.762. In both opinion and operation it was ranked first by administrators, department heads, and agricultural instructors alike. Respondent comments implied that the field trip is the most effective single teaching device, since, through it, highly interested students learn which practices or systems of management are most efficient and effective from practice and observation on actually operating farms.

The *reading assignment* was given a "very desirable" opinion and a "much use," operation rating. The comments, supplemented by the above results, indicated that reading assignments supplementing class discussion, lecture, and laboratory work are necessary because it

is not possible to treat all areas of a subject thoroughly by these other means in the limited amount of time usually allotted. The extent of such assignments, according to the data revealed by this investigation, is probably conditioned to some extent by the educational philosophy of the instructor. However, reading assignments for terminal students should not be restricted to textbooks alone but should encompass as well, selections, by both students and teachers, in technical bulletins, farm magazines, and other pertinent literature. This was the polled opinion of all but 2 percent of the all-day respondents.

*Homework of the written assignment type*, while being recognized almost without question as necessary for transfer students, found somewhat indifferent favor among respondents as applied to terminal students. The majority apparently were of the opinion that homework of this type was only "probably desirable," but should be used at least to "some" extent. The use of written assignments, term papers, and problem-solving homework for terminal students appeared to be on the decrease.

The *lecture* as opposed to the *class discussion method* received the approval of only 4 percent of the respondents. The majority, 58 percent, were of the opinion that in presenting the agricultural curriculum informal but directed class discussion should dominate with lectures serving to elaborate occasional points. This opinion was in close agreement with the practice reported by 60 percent of the respondents. Although the class discussion is generally preferred over the lecture, by vocational instructors, the lecture must be used to a considerable extent in presenting the junior college agricultural curriculum so that the necessary scope of the subject matter may be adequately covered. Nevertheless, there appeared to be an observable trend toward a decrease in the use of the lecture method and an increase in the use of the class discussion technique. If such a trend actually did exist, however, its implementation might well have been tempered if not largely nullified by such adverse factors as excessive class size and too much material to be covered in a specified length of time.

Eleven techniques were considered from the standpoint of their usage in laboratory work. In order of decreasing importance and percentage acceptance, the respondents rated them as follows: (1) the demonstration field trip, 90 percent; (2) demonstrations, 87 percent; (3) practicing skills in the laboratory or on school or community farms, 81 percent; (4) using audio-visual aids, 72 percent; (5) class discussions, 56 percent; (6) formal laboratory work, such as found in the science classroom, 41 percent; (7) supervised study, 32 percent; (8) lecture, 31 percent; (9) seeks solutions to broad and complex problems, 28 percent; (10) panel discussions, 27 percent; and (11) research in technical problems, 11 percent.

Other findings of this study will be presented in a future issue. □

## Instructional aids can become a reality

# Experiences with an instructional aids program

## In which cooperation brought results

RAYMOND M. CLARK, Teacher Education, Michigan State College



Raymond Clark

FOR many years teachers of vocational agriculture have recognized the need for instructional aids and materials. In some states this need has resulted in the organization of extensive programs for development of instructional aids at the teacher training

institution. In other states the organization of such a program is in its infancy.

No one would argue the point that there is still need for improvement in the field of instructional aids. It is with the idea that an exchange of experiences and a statement of problems involved in the development of programs will be helpful in improvement, that this report of one year's experiences is written.

### Program Began with Teachers' Association

The Michigan Association of Teachers of Vocational Agriculture organized in 1936 a committee on visual aids to work with teacher educators at Michigan State College. They evaluated many movies and published some recommendations regarding films for the use of the association members.

At the same time a course in visual aids was organized and offered for a number of years to teachers of agriculture attending the summer sessions. This course proved very popular with the teachers and it seemed to be effective in helping to improve instruction in the vocational agriculture departments.

With the advent of the war much of the activity of the committee was lost but after the war the committee was reactivated by the association. Working with Dr. Harold Byram, Head, Department of Agricultural Education, the committee requested the establishment of a position in teacher education which might be termed 'instructional aids specialist.' After a number of years of work the position was established and the writer was assigned to the position to begin in July, 1952.

### Teachers Reported Their Needs

Prior to the assignment the writer had made a survey in which teachers were asked what kinds of instructional materials they needed. A relatively high percentage indicated that they needed (1) information as to sources of movies, slides, models and specimens to use in their classes; (2) written reviews and evaluations of movies, slides and other visual aids; (3) assistance in building

libraries and supplies of specimens, models, charts, and, to a lesser degree, movies and slides.

Many other suggestions and comments were supplied. Probably most useful was the high percentage of teachers who asked for reviews on current literature in agriculture and in education.

During the school year 1951-52 the committee of teachers of vocational agriculture also contacted Melvin Henderson in the Vocational Agriculture Service, University of Illinois, regarding the availability of strip films which have been produced under his direction, for use by teachers in Michigan. Mr. Henderson proposed that the slide films be revised to conform to conditions in Michigan and that the Vocational Agriculture Service at the University of Illinois would then produce prints of the revised slide-films for the use of Michigan teachers.

### Program and Accomplishments in 1952-53

When the writer was given the assignment as instructional aids specialist, in the summer of 1952, one of the first tasks was to write a program of work which would go as far as possible in the direction of helping teachers in the areas in which they had expressed needs and which would at the same time keep the materials in line with accepted educational practices and techniques.

The program provided (1) for the revision of many of the Illinois slide-films; (2) the development of new slidefilms or sets of slides from materials to be submitted by teachers; (3) the development of source units for use by teachers; (4) planning for in service meetings of teachers on techniques of making charts, slides and other visual aids; (5) reviewing professional and technical agricultural materials in the quarterly Service Letter, which is sent to teachers of agriculture in Michigan; (6) and other activities such as assisting in setting up exhibits and working with staff members in the school of agriculture on preparation of materials.

### Relationships with the School of Engineering

Early in the year the dean of the School of Agriculture was contacted and informed of the program and of our plans. He was enthusiastic about the plans and offered many excellent suggestions. At his request an hour was devoted to a discussion of the plans in a meeting of the department heads in the School of Agriculture. In this meeting we stated that it would be our policy to ask the departments concerned to check all items of technical agriculture which we planned to release. This would

include the revisions of slidefilms as well as of other items.

Following this meeting, staff members in each agriculture department were assigned to work on the revision of the slidefilms with the author. In many instances this contact has also resulted in many mimeographs and other materials, which normally would have very limited circulation, being submitted for review or distribution to teachers. The dean of agriculture had said, "Our publication of bulletins is far behind our research and therefore many of our teaching staff and extension staff have had to resort to mimeographs for some of their groups. If you can help distribute this material you will be doing a great service to the teachers and to the College." Some of this distribution of material has become a reality.

### The Teacher Association Continues to Work

The item of source units included in the program of work was neglected until the bulk of the slidefilm revisions could be completed. During the summer conference of teachers in July, 1953, a group of 25 teachers developed outlines of source units on approximately 15 different subjects. We expect much more work to be done in this area during this school year.

The committee of the association has continued to be active. The committee serves as an advisory group for the association and assists greatly in reflecting the needs, desires, criticisms and suggestions of the members. Small groups of teachers undertook to make suggestions on the revision of slidefilms early in the first year. More recently, ten to fifteen small groups in geographic areas in the state have decided to work on the production of source unit materials which can be distributed to all the teachers as they are completed.

### By-Products

It is often true in industry that the by-products of an undertaking are more valuable than the original product. In the long run this may also be true of the work of the instructional aids specialist. Already there is a keener interest and consciousness of the needs of teachers of vocational agriculture on the part of many staff members in the school of agriculture. As a result there may be an improvement in course content or in the quality of the instruction by some staff members.

In several instances staff members in the school of agriculture have suggested the development of slides or movies to parallel a new printed bulletin as a teaching device. In other departments money has been distributed to teachers of agriculture and committees of teachers are working with us on these materials.

Teachers are more aware of the need for improving their methods and techniques. The course in visual aids for teachers of agriculture has had capacity enrollment each summer it has been taught.

An increasing number of groups of teachers are asking for help in tech-

(Continued on Page 192)

## A state association reports to its members

### Minnesota finds this to be a real morale builder and public relations tool

DEANE TURNER, Past President MVAIA, and formerly  
Voc. Agr. Instructor, Red Wing, Minn.

**T**HE MINNESOTA Vocational Agricultural Instructors' Association Newsletter came into being two years ago. The responsibility was assumed for several reasons:

1. To offer professional information and an added service to the membership of the Association.
2. To aid in motivating MVAIA committee work and to make their findings more effectively available to the Association.
3. To permit all information and actions relating specifically to the operation of the Association available to the membership at various intervals during the year.
4. To develop a more professional attitude of the members toward the Association.
5. To aid us as Vocational Agricultural and Veterans Instructors in more effectively publicizing the program in Minnesota.

#### How It Started

The original plan of operation for editing the Newsletter was developed so that materials recruited by a relatively small group (committee of 12) would be forwarded to an editor, in this case the Vo-Ag teacher at Fairbault. The editor would then organize the material, duplicate it (holograph), furnish the covers, bind, and mail the Newsletter to members of the Association three times each year (fall, winter, and spring). The editor was reimbursed by the Association for the cost of production of the Newsletter.

It soon became apparent that the editor was overburdened with his responsibilities and that the publication was not particularly attractive visually or from the standpoint of readability because the editor did not have sufficient time to properly edit materials forwarded to him. The cost of three issues of the Newsletter under the original plan during the first year approximated \$850.00.

The revised plan of editing and publishing the Newsletter has been in operation since October, 1952. October, February, May and August are the months in which the respective editions are mailed. The responsibility of editing and publishing the Newsletter is charged to a Committee of nine. These Committeemen live within a radial distance of 100 miles in Southeastern Minnesota. The common meeting place for the Committee is less than 60 miles from the school of anyone of the Committeemen.

#### Responsibilities Are Distributed

Each of the nine representatives on the Committee have a specific responsibility in re-cruiting and editing his portion of the Newsletter. All materials are submitted typewritten and double-spaced. The responsibilities of the nine Commit-

teemen are as follows:

1. The President summarizes all minutes of meetings and convention. He also has a President's report which is used to stimulate interest in the Association.
2. The Past President recruits all out-of-state professional and technical materials.
3. The Secretary-Treasurer submits up to date information on membership by districts and special information in regard to payment of dues, etc.
4. The Vice-President is in charge of all committee reports.
5. A Committeeman is in charge of school administrator reports (Principal & Sup't. reports) and humor.
6. Another Committeeman is in charge of "Who's Who" in the districts and FFA activities.
7. Another member recruits Veterans training stories and reports.
8. Another member secures information from the various departments at University Farm (including Agricultural Education) and the State Department of Education.
9. Another member is held in reserve to prepare special interest features (stories and pictures).

The nine member committee meets at least 1½ months in advance of the date of publication to assemble the Newsletter. All information must be typed and edited for this meeting of the Committee (Very Important!). The assembly of the Newsletter is accomplished by drafting a table of contents. Into this table goes the most up-to-date well written, timely materials. Each article is labeled for the printer so that he knows of its relative position in the Newsletter organization. (A code of 0-1, 0-2, 0-3, etc., may be used to identify materials submitted by the president in accord with the order in which it appears in the table of contents).

After the assembly of materials meeting, the copy is further checked and submitted to the printer. (We have made an attempt to reduce costs of pictures in the Newsletter by obtaining newspaper mats or plates.) In 15-20 days the printer has available the galley copy. Three or four members meet to do the proofreading. This generally requires 2-3 hours. The copy is then returned to the printer for final print.

The FFA Chapter in the home town of the printer has been responsible for attaching address labels and inserting the Newsletters in envelopes for mailing. A mailing permit (commercially stamped on mailed envelope) has been used with some additional cost this past year. The address labels, as perforated sheets, were prepared in quadruplicate by the President at the time of the fall edition when an up-to-date membership list was available.

#### Distribution

The fall edition is sent to all Vo-Ag and Veterans instructors of the state. Only paid-up members of the Association receive the Winter, Spring and Summer editions. All four editions are mailed to over 200 individuals representing educators, legislators, businessmen and industrialists who have an interest in Agricultural Education. A staff member of the Department of Agricultural Education is responsible for forwarding copies to all other state association presidents.

A contract for printing the Newsletter is let on bids each year and includes four issues. The Newsletter Committee specifies to the bidders the following:

1. The cover (front & back), the type of binding, the color and the title on the cover as well as quality and weight of cover are specified.
2. The type of print and size of print (This may vary to conserve on space, in some instances).
3. The weight and quality of the paper used in the body of the Newsletter.
4. The per-plate cost of pictures.
5. The cost of envelopes including a return address.

During the past year, the cost for a year approximated a total of \$1,500. Based on the Minnesota membership of 300, the cost per member is \$3.00 per year. Our total Association dues are \$15.00 per member per year. Our affiliate obligations total \$8.00 per year per member. That leaves an MVAIA Association operational budget to be based on \$4.00 per year. □

## The farm mechanics - -

(Continued from Page 185)

Changes in procedure, techniques and information in farm mechanics. (4) The importance of different areas set up in the shop, such as arc welding, acetylene welding, farm plumbing, farm electricity, forge and cold metal, first aid, concrete and farm machinery repair.

Of particular interest to the school officials was the cost of equipping a vocational agriculture farm mechanics shop properly. After the discussion of the above items, a tour was made of the shop to observe the general layout of the different areas and other features.

As a result of this series of meetings, the teachers are making plans to re-organize and set up their own shops into different areas. This will give the all-day boys, adults, and young farmer classes an opportunity to receive better teaching in the different areas, making them better qualified to solve the many farm mechanical problems confronting the farmers today. Also, the school officials that attended are more fully informed as to the place of a farm mechanics shop in the total school program and its needs to fill that place properly. □

We believe not in terror, but in tolerance; we believe in justice for everyone, regardless of his political faith, his racial origin, or his religious creeds. Those are the strongest ideas that have ever been let loose in the world.

—William O. Douglas

Individualizing instruction is discussed in - -

# The individual curriculum\* in Vo-Ag

## Its values and some limitations

ROBERT J. LOUGHRY, Vo Ag Instructor, Hickory, Pa.

MUCH EFFORT has been exerted in establishing a program of education in the local departments of vocational agriculture which would (1) produce the best training for Future Farmers, (2) gain and hold the interest of the boy in the classroom, (3) provide for the maximum transmission of information from teacher to student, (4) reduce disciplinary problems in the classroom, and (5) lead to the establishment of a greater number of boys in farming.

To meet the above tests, a program of education for the department of vocational agriculture must (1) contain all the information necessary to train fully all of the students for the vocation of farming, (2) be vital to the needs of the boys' present supervised home-farming program, (3) be in language easily comprehended by the boy to facilitate communicating it to him, (4) be so interesting and so important to the students that it will keep them so engrossed and so employed that all need for discipline is removed, and (5) be so persuasive that upon completion of the program the student will know that the vocation of farming is able to compete with all other vocations in providing ample security for any ambitious young farm man.

### Trend Toward Individual Instruction

To meet the above mentioned criteria, agriculture teachers have been slowly moving away from group instruction and moving toward instruction of the individual. The major problem stems from organizing a program to accomplish this. Advantages for organizing a teaching program for vocational agriculture on an individual basis are as follows:

- (1) The individual curriculum permits the student to progress at his own speed. This enables boys with higher mentalities and those with better developed work habits to do a greater volume of work. At the same time, individuals with lesser abilities have all the time they need in which to complete the work they start.
- (2) The individual curriculum provides for differences in individuals by meeting the needs of the boys with their home-farming programs. It is not necessary to state here that great differences do exist among the farming programs within the same vocational agriculture department. It does seem necessary, however, to point out that considerable differences are evident among supervised farming programs which in the project books are usually classified under

one heading. It is here that the individual curriculum gets down to the *grass roots* of the boys' present interests in farming.

- (3) The individual curriculum is a student-teacher planned program as opposed to teacher or teacher-class planned programs. This program of study is planned by the student and his teacher meeting together; thus it can be directly related to the individual while other programs must be generalized to the interests of the group. The boy, having shared in the planning of his own curriculum, is more likely to understand it, accept it as his own, and work with it.
- (4) Outmoded methods of teaching are automatically brought to a minimum. The student under the individual curriculum learns more by *actually doing*. It is easier for him to relate any of his vicarious experiences in this method of study to his present class work for he has the motivation to do so.

### Planning Is Essential

It should be pointed out that this is not a "do as you please" program, but a *do as you have planned* program. The whole individual curriculum rotates around the supposition that the teacher is able to apply those democratic principles he as a teacher has learned to the point of permitting the student freedom of thought and action coupled with self-motivation. If the teacher is not mature enough to give the student in his classroom these freedoms, then he should never attempt to use the individual curriculum plan of study, for it will surely fail.

For some educators to conceive a class in which no two students are pursuing exactly the same course of study would bring to mind the old adage of throwing the bull by the tail; however, that is exactly what this thesis proposes.

Agricultural teachers are guilty of much superficial and inaccurate thinking about the curriculum in vocational agri-

For America is not the magic scenery  
Washed by the sunrise and the sunset  
seas;  
No; nor yet the prairies dark with herds,  
Or land-lakes of the western grain, nor  
the peaks  
Bursting with metals, nor the smoky  
mills;  
America is you and you and I.

—Author unknown

culture. This arises from failure to see and understand clearly the fundamental relationships between the use of the curricular materials and the growth of human beings toward the objectives of vocational agriculture. Let's face it! The mastery of uncommon things, even though the mastery does not go beyond a level slightly above mumbo-jumbo is to most of us imperative. We forget the aims of education and turn our efforts toward subduing the individual.

### Pupil Centered

If we are to assume that our vocational agriculture curriculum is to be a contribution to the environment of the learner, then it must be based on *his* environment and not that of his classmates or on the ideas of an author of a text book a thousand miles removed geographically, mentally, and experientially. No teacher can hope to influence growth and behavior if he does not start with the student as he finds him and arrange and present his materials to that student in a way that the individual will know that it was intended for him. No boy wants a suit of clothes two times his size. He wants it to fit him. So it is with his curriculum.

To organize the individual curriculum properly, the teacher of vocational agriculture must keep in mind three fundamentals:

- (1) He must determine the objectives of the department of vocational agriculture for his own school.
- (2) He must help to determine for the individual student each of the characteristics of the kind of Future Farmer desired, the necessary or contributory information, attitudes, interests, skills, habits, tastes, concepts, principles and understandings.
- (3) He must help and supervise the selection and arrangement of all materials according to the pupil's interests, abilities, and previous growth.

### Limitations

There are certain limiting factors to any program, and it is only fair that these be pointed out in the case of the individual curriculum:

- (1) The individual curriculum requires more work from the teacher.
- (2) The individual curriculum requires the teacher to have at his finger tips a greater store of information, since students will constantly be asking for help in many different areas.
- (3) All evaluation and grading must be done on an individual basis since it is impossible to compare the work of two or more students.
- (4) School administrators must be conditioned to the use of such a program.

Any curriculum must have in it these two qualities to be of value to vocational agriculture—*definiteness* and *appropriateness*. Surely no other type of curriculum organization can offer these qualities in a stronger or more abundant form. □

\*The term curriculum is used here in the same sense as some persons would use the term course of study.—Ed.

## Improving professional status begins early

## Follow-up work with beginning teachers\*

## Helps to start a professional career

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**T**HE SUCCESS of a career in vocational agriculture is determined to a marked degree by how well the teacher gets along the first year. Most beginning teachers need considerable guidance and assistance during their first year of teaching. Even though the student-

teaching program provides for much experience in the job of a teacher of agriculture, the beginning teacher will have many problems that will call for help. It is not possible for a student teacher to learn everything about the complex job of teaching agriculture during his pre-service training period. Likewise, no pre-service training for teachers can exactly duplicate the situation in a given community. Consequently, a beginning teacher will encounter many difficulties when he launches out in a new community. The beginning teacher may become discouraged because his students do not live up to his expectations. He finds that the school activities and routine duties take much of his time. He may find it difficult to get his young and adult-farmer programs under way. Without some sound advice, guidance, and help at this time, he is likely to develop poor work habits and teaching procedures that will be difficult to change. He may need help in planning the wise use of his time, which is now a *must* since the program is much more complex than formerly.

Supervision has as its purpose improving the quality of instruction. Follow-up of beginning teachers has to do with on-the-job supervision. In vocational agriculture this includes the total program—classroom instruction of all-day classes, young farmers, and adult farmers, and field trips, demonstrations, and on-farm supervision of all groups. If the teacher is having some of the difficulties mentioned above, he may not do an effective job of teaching. Before being on the job very long, the teacher usually will have discovered many of his shortcomings and problems and will be eager for guidance and help. Few beginning teach-

ers feel that their work is progressing satisfactorily. Words of encouragement and a "pat on the back" may do wonders to give confidence and to relieve a feeling of frustration.

## The Need for Early Supervision

The follow-up supervision, or in-service training, should begin soon after the teacher goes on the job. This supervision may take various forms. It may be through visitation or small-group meetings. In many respects supervision in Kentucky begins before the teacher goes on the job. After the teacher builds a course of study for his particular school, he is given help in deciding on the kind and number of books and bulletins he will need to add to his agricultural library. In many cases he is given help in improving the classroom and shop facilities.

One very important phase of early supervision is to help the teacher analyze his job and decide upon the relative importance of his various activities. Because of inexperience the teacher may devote his time and energy to the things he likes to do best rather than get a sound program under way. He may resort to hour-to-hour or day-to-day teaching rather than think through and plan a long-time program for his department. One of the best ways to help the beginning teacher start a good program is to point his efforts toward the development of good supervised farming programs and good classroom teaching. This, we believe, is basic. The teacher also needs on-the-spot help in deciding what his young-farmer and adult-farmer programs should deal with, when they should start, and how to work them into his schedule for the year.

## Beginning Teacher Plans for the Supervisory Visit

The teacher should have an opportunity to plan the things he would like to work on the day of the supervisory visit. For this reason the teacher trainer notifies the teacher some ten days ahead of the date of a visit. Along with this notice the teacher is sent a check list of things on which beginning teachers usually need some guidance and help. This check list covers the various phases of a complete program. It includes such things as the following, with a breakdown of each:

1. Using course of study
2. Using group problem solving in teaching
3. Using individual-problem days in teaching



Stanley Wall

4. Using field trips in teaching
5. Teaching farm shop
6. Selecting and planning farming programs
7. Supervising farming programs
8. Supervising the keeping of farming-program records
9. Young-farmer work
10. Adult-farmer work
11. Future Farmer activities
12. Working with school people and agricultural agencies
13. Department files and records
14. Improving departmental facilities and teaching materials
15. Evaluating teaching-learning

The teacher, having checked or made notes on the list, has prepared for the visit, and we are ready to begin work during any vacant period or after school.

Two or three such visits are made during the school year: one soon after school opens in the fall, one about the middle of the year, and one near the end of the school year.

## Observing the Teacher at Work

When visiting a beginning teacher, we usually arrive at the school early and spend the entire day. As a rule, we contact the superintendent or principal or both before the visit, thus coordinating our work with the school administrators. In most cases, usually after school, we have a conference with the teacher and the principal or superintendent or both, to discuss certain phases of the program.

By spending the entire day with the teacher, we can observe him as he works throughout the day and thus are able to give him assistance where he may be having difficulty.

The beginning teacher should not be expected to grasp a lot of new ideas in one day. Too many ideas or suggestions on how to get the job done may only add to his confusion.

After school or during vacant periods, we have an opportunity to work on any phase of the program the teacher may want to work on. Also we have an opportunity to go with the teacher on a supervisory visit to one of his boys or young men and to work with him on his on-farm supervision. To spend only a few hours with a teacher and not have an opportunity to sit down and discuss with him the things he wants to work on would defeat the purpose of the visit. It could only result in "checking," and little improvement would likely be made in the teacher and the quality of instruction.

## Improving the Teacher-Training Program

Working with teachers of agriculture during their first year of teaching gives us first-hand information as to the real needs of teachers. At the same time it provides us an opportunity to appraise our attempts at teacher training. By working in the field on alternate years and getting acquainted with field situations and problems, we are in a better position to do teacher training in the years we work with student teachers on the campus. □

\*Note: This article is built around a procedure used in Kentucky with beginning teachers. In that State two men alternate in working with student teachers at the University and the follow-up of men the first year on the job. One teacher trainer works with a group of men in student teaching (on-campus classes and supervising training centers) at the University for a year; the next year this teacher trainer follows these same men into the field, helping them to get established in their work. In this procedure the beginning teacher knows the teacher-trainer and accepts him as his friend with an understanding that avoids timidity and distrust.

## Progress in -

(Continued from Page 179)

### A Professional Person Participates in Professional Organizations

A professional person strives to advance the standards of his profession through a contribution to local, state and national associations as well as through his individual practice or service. All teachers should participate in the educational organizations and agencies which are formed to advance the interests of their profession. In vocational agriculture it appears that there is an adequate number of such organizations. We need to perfect those which we have rather than to think in terms of additional organizations.

Teachers need to have a more thorough understanding of the purposes and programs of their organizations; likewise, they need to avail themselves of the opportunity to participate actively in them. Undoubtedly, the National Vocational Agricultural Teachers' Association was formed because other national organizations did not provide ample opportunity for participation in a program which met their specific needs. On a state level, it is desirable to have more and more functioning committees and to increase the scope of activity on a district or regional basis. Teachers could take a good lesson from the FFA insofar as program planning is concerned. Too often our professional organizations do not address themselves to the task of developing challenging and measurable goals, and ways and means to be followed in accomplishing those goals. Programs need to be written and the membership is entitled to know what is being planned and accomplished. This increased activity, which would be desirable, would necessitate larger budgets. Other professional organizations have more adequate budgets than are being provided by teacher associations.

### A Professional Person Abides by a Code of Ethics

All professional persons abide by a code of ethics. A basic aspect of such a code gives recognition to rendering service as being the chief purpose of the professional. Such persons are not employed by the hour; neither is close supervision necessary. Professional persons should have the ability and should be trusted to direct themselves, their plans and their activities. It appears that some in our ranks are becoming a bit too conscious of the number of hours that we are spending in teaching vocational agriculture. We should never come to an agreement concerning the number of hours which should be spent each day or each week. This should be left to the judgment of the teacher. He needs, however, to have a thorough understanding and appreciation of the objectives that should be reached in his program and have the ability to plan a course of action to accomplish them. Persons who do not meet such standards should not be certified to serve in the profession.

Loyalty to the profession and to the people engaged in it is another funda-

mental point in any professional code of ethics. Personal grievances and unfavorable criticisms of colleagues should be directed through proper channels. Teachers should refrain from underbidding a rival for a position. Likewise, endorsement of educational materials for personal gain should not be made.

Teachers, like other professional persons, are interested in seeking and supporting fair salary schedules. One of the chief difficulties in the teaching profession is that salaries are too often inadequate. This has been one of the important factors contributing to an inadequate number of persons seeking admission and the large number leaving the profession. There is reason to believe that as we become more professional, salaries will be increased.

There appear to be changes in the accepted patterns of conduct for teachers. In many communities such limitations as no smoking or dancing have been relaxed. The idea that the conduct of a teacher should conform to the accepted behavior of the most wholesome people in the community appears to be sound. A teacher should make his contribution toward the improvement of the community.

### A Professional Person Has Pride in the Profession

The professional person reflects satisfaction in his work. He has a point of view that no other work is more important. He is interested in telling others the good news about his profession. At this point the teaching profession needs to make some improvement. For too many years we have been apologetic about being a teacher. Too many of our members have reflected dissatisfactions, thereby encouraging students to engage in other pursuits. In many cases, it is the incompetent, unprofessional person who is dissatisfied. The causes for the dissatisfactions should be determined and a program developed to remove them. This is our professional responsibility. □

## Experiences with -

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niques of developing and using their own visual aid materials.

### What of the Future?

It is always dangerous to try to predict the future. In spite of the dangers involved a few predictions seem to be in order.

1. The development of source units seems likely to go forward during the next few years. Two aspects of this development seem clear. The first is that some source unit materials may be developed on the state level and distributed to teachers. The second is that much of the detail of source units will be supplied by individual teachers or by small groups of teachers working out materials adapted to their local areas.

2. Future publications of the College may be developed with suitable visual aids to accompany them. These may take the form of sets of slides, movies or T.V. kinescopes which will supple-

ment and complement the printed bulletin.

3. Teachers will be better trained at the pre-service level. Undoubtedly teachers are better trained than they were a generation ago. But all of us would agree that improvement may still be made. Improved instruction in college classes, either in professional education courses or in technical agriculture classes will do much to raise the quality of training of teachers. This improvement will result as the college staff becomes more aware of its opportunities for improving instruction and as it develops better understanding of the needs of teachers it helps to train.

4. In-service training of teachers will need to be adapted to meet the needs of teachers for further help in the use of instructional materials for more effective teaching. For example, groups of teachers are already asking for help in the further development of source units. Other groups have asked for help on how to make better slides, how to take better pictures for instructional work, how to make more effective charts and exhibits and how to make better use of these materials in their schools. □

## Editorials (cont'd)

(Continued from Page 175)

body. Henry Groseclose of Virginia on a hospital bed dreamed out the elements that later became the Future Farmers of America. Let those who follow remember that the farm boy of today must have the challenging leadership that will enable him to find and fill his place in the whirling vortex of clashing ideologies and social and economic upheaval.

Doctoral programs should be concerned with much more than educational minutiae in making their contribution to the development of leaders who are so sorely needed in these days of worry and international travail. □

## Cover Picture Legend

The cover picture shows the Advisory Committee to Agricultural Education and General Agriculture on the campus of the University of California at Davis. They are evaluating and making recommendations for the continued progress and improvement of agricultural education and general agriculture. Reading from left to right, the membership of this committee is Russell Perry, Professor of Agricultural Engineering, John Oswald, Associate Professor of Plant Pathology, Luther D. Davis, Professor of Pomology and Chairman of this committee, F. N. Briggs, Dean of the College of Agriculture and ex-officio member of this committee, S. S. Sutherland, State Teacher-Trainer of Agricultural Education, Robert Allard, Associate Professor of Agronomy, and E. M. Juergenson, Assistant Teacher-Trainer of Agricultural Education. These people are vitally interested in the program of training teachers of vocational agriculture and meet periodically to plan a program which will be most effective in meeting current needs. □

